

Try this easy way to create

You can duplicate the beauty of leaded glass in these three projects from the PM workshop.

You can give the distinctive look of stained glass to your workshop projects with very little effort and no special tools. The modern version, using liquid lead squeezed from a bottle, combined with glass stains applied with eyedroppers, eliminates the time-con-

suming, exacting techniques of cutting glass and fusing pieces.

To introduce you to this colorful craft, we've designed three shop projects around stained-glass panels. Following are glass-staining tips.

To stain a pane of glass or a mirror, wash it thoroughly with a vinegar-and-water solution or alcohol. For an acrylic panel, first remove the protective paper and wash the plastic with warm water. Dry with a soft, lint-free cloth. Enlarge the pattern to full size.

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*Hobbies
Suggestions*



Pocket-calculator stand

Pocket calculators, a fixture on more and more desks, unfortunately have a tendency to "grow legs and walk off." Whether your problem is a borrower who is careless about returning the unit—or worse—this good-looking calculator stand will solve your problems.

Begin by carefully tracing the side (profile) of your calculator. Add $\frac{1}{8}$ in. to the overall length and height and draw a box around the outline. Next, draw in the area for the bottom wedges and back and front panels. Use this diagram as a pattern to cut out sides B and wedges A.

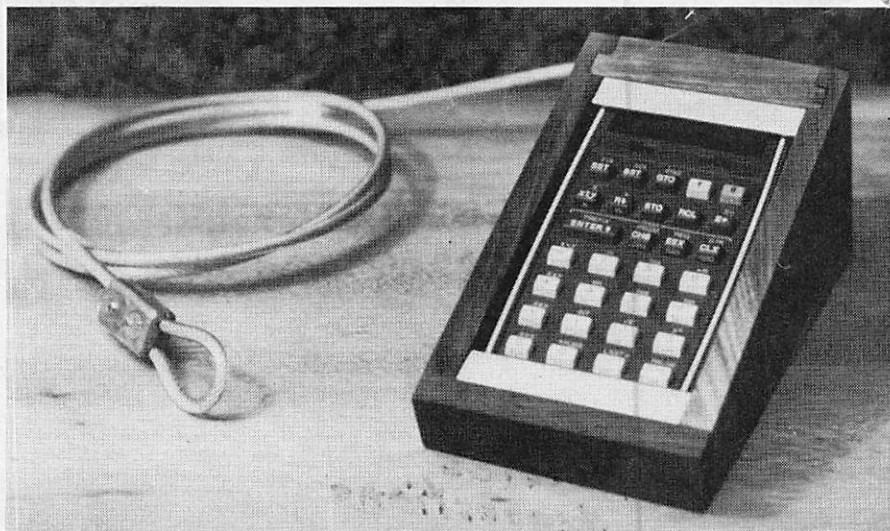
Cut four or five wedge sections and glue and clamp them together. When dry, cut the wedge block to a width equal to that of the calculator, plus $\frac{1}{8}$ in. Cut the dados in the side-pieces (B) and glue and clamp them to the wedge block. Measure for and cut the front (C) and back (E). Cut the rabbets in E and test for a sliding fit between the sides. Glue on the front. Note: If you own a bandsaw, assemble the case as a box and cut all the required angles with one pass.

Bore a hole for the lock. Then, with a router or wood chisel, mortise the lock flush with the back. Drill a hole through the back of the lock faceplate for the cable. Also, cut a small groove under the lock faceplate for the cable. Pressure on the bent cable will hold it very securely in place.

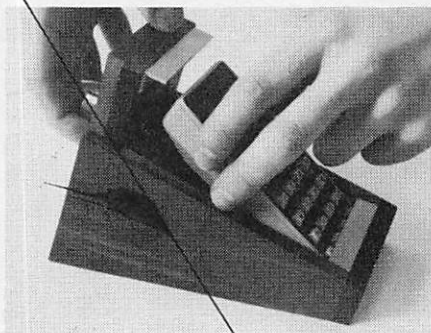
To locate the hole which receives the lock bolt, apply a light coat of grease to the tip of the bolt. Insert the sliding back into the case and push the bolt. A small spot of grease will mark the spot to drill. Bore another hole in the back large enough to accept the charger plug.

Bend the free end of the cable into a loop and secure it with a cable clamp. Epoxy or solder the heads of the screws. Cut and drill two pieces of aluminum angle. Each should be attached flush with the top of the case.

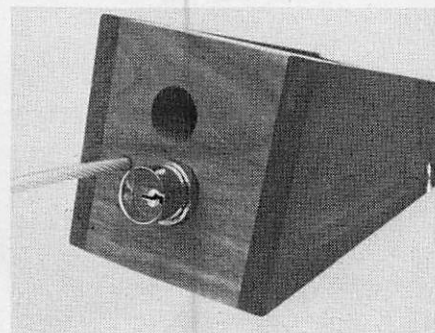
Before applying finish to the case, remove the hardware; finish with Danish oil. When dry, replace the metal parts.—*Lane C. Sander*



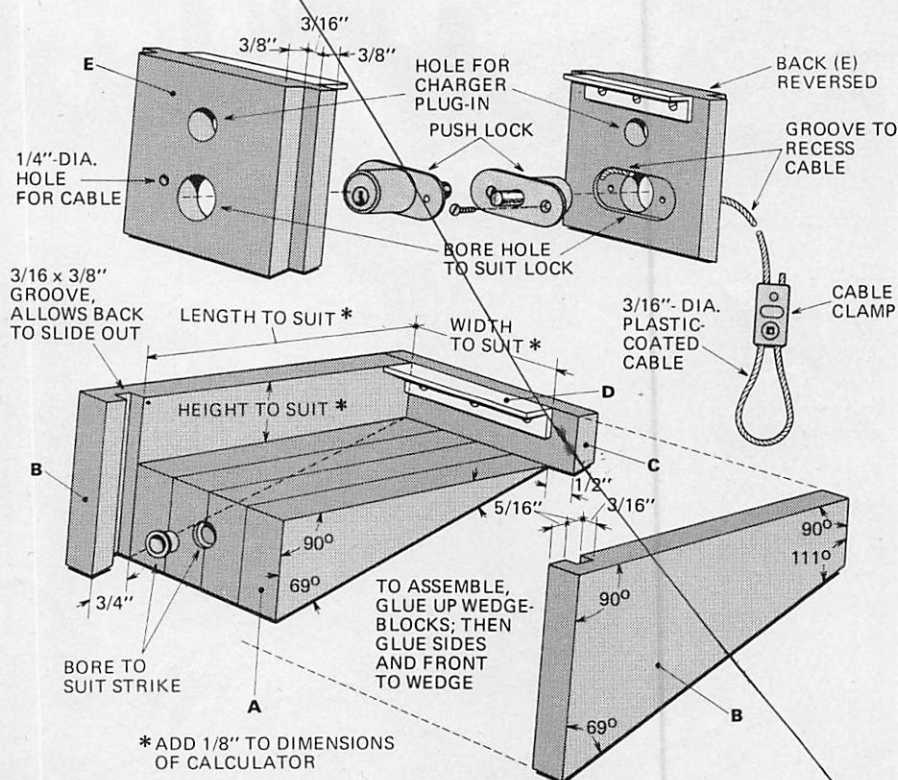
Stand makes calculator easier to read. Its cable can lock to the desk to stop theft.



When stand is unlocked, back of the calculator can be raised for removal. Dimensions may be adjusted to suit any calculator.



Hole in back of stand is aligned with charger jack and permits recharging without removing the calculator from its case.



MATERIALS LIST—STAND

Key	No.	Size and description (use)
A	4 or 5	$\frac{3}{4}$ " pine; short side of wedge is $1\frac{3}{4}$ " long; other dimensions to suit (base)
B	2	$\frac{1}{2}$ " hardwood to suit (side)
C	1	$\frac{1}{2}$ " hardwood to suit (front)
D	2	$\frac{1}{2} \times \frac{1}{2}$ " aluminum angle to suit (retainers)
E	1	$\frac{3}{4}$ " hardwood to suit

Misc.: Push lock*, cable clamp, $\frac{3}{16}$ "-dia. plastic-coated cable \times length to suit

*Chrome push lock No. 524 (for sliding doors and panels) from Lustre Line Products, Philadelphia, Pa. 19125, was used in prototype. It costs about \$5.50 at hardware stores, building supply outlets and retail locksmith shops.

'stained' glass

by Penelope Angell
and Constance Spates

To stain a mirror or frosted acrylic, transfer the pattern to it with carbon paper. On clear acrylic or glass, place the pattern underneath on a flat surface. Apply liquid lead (black) or liquid pewter (gray) following the pattern lines (see photos, page 99).

Cut the tip of the liquid lead applicator, taking care not to cut too large a hole. You can enlarge it later if necessary.

You'll want different bead sizes on some pieces. For example, the inner lines of the zodiac panel are quite

1 Bogart fans and movie buffs will have a special affection for our Casa (as in *Casablanca*) light box. The art deco cityscape is from marquee on New York's Radio City Music Hall.

2 A dragonfly in brilliant blues presides over this glass-stained mirror. The handsome frame, made from conventional moldings, is an original design from the PM workshop.

3 You can section off living space and still maintain an open feeling with this colorful zodiac panel. To separate areas, suspend the panel over a bookcase or cabinet.

fine (about $\frac{1}{16}$ in. in diameter); the outer lines are thicker.

Squeeze the lead onto scrap paper to check the size (diameter) of the bead that is formed. Once the hole size is correct, you can use the top on subsequent bottles.

Outline the design on the panel with liquid lead, being careful that every bit of the line adheres. Each section must be a tight well so the stains cannot run together. Use a toothpick to dab the bead down where it's not secure. Let the leading dry overnight. Note: Don't expose this water-based material to the outdoors.

Applying the glass stain

Place the outlined piece on a level surface so the stain won't flow beyond its enclosure. Apply the stain with eye droppers, using a different dropper for each color.

To avoid accidents, hold a tissue under the dropper until it is directly over the area to be filled. To achieve the best color, fill each area with stain as far as possible, without letting the stain overflow. Keep the finished piece on a level surface until it is dry.

If any bubbles should appear during the applica-

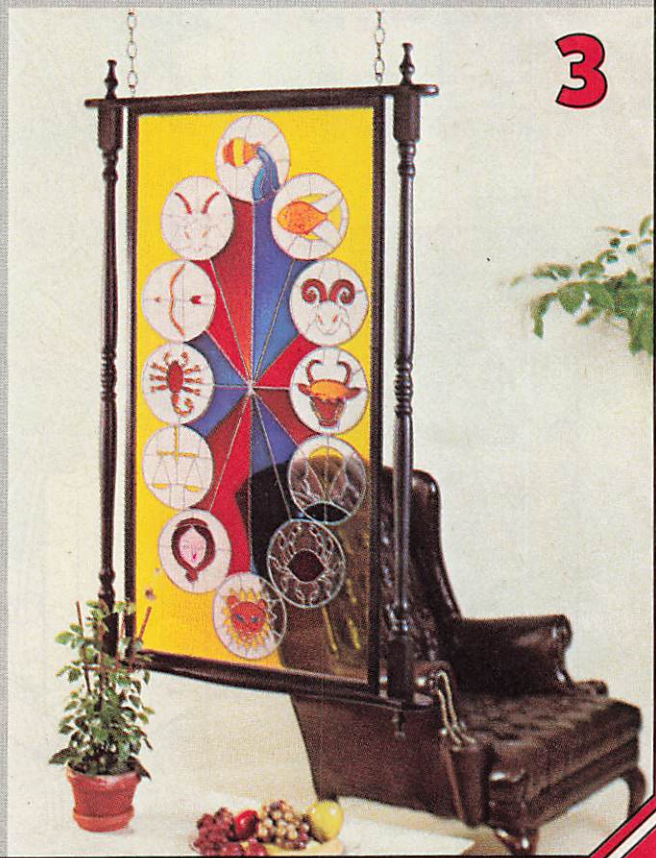
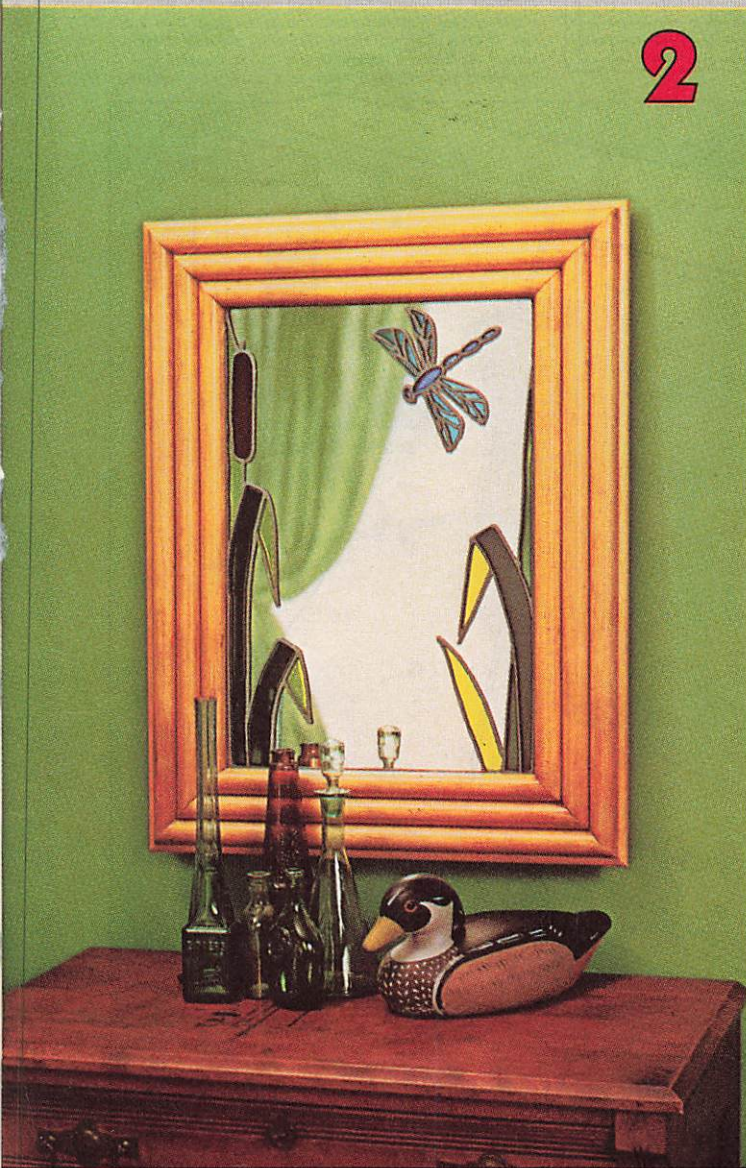
PM photos: Steve Fay

Technical art: Eugene Thompson

Glass-stain designs and execution: Constance Spates

Design and construction: Light box and mirror frame, Harry Wicks; hanging zodiac panel, Rosario Capotosto

Glass-stain materials: Titan Glas Stain, Titan Liquid Lead and Titan Liquid Pewter from Titan Corp., 5629 208th St. S.W., Lynnwood, Wash. 98036. These are available nationally in craft stores and by mail from: American Handicrafts, Box 791, Fort Worth, Tex. 76107. Wing chair in zodiac-panel room setting. Available through selected J.C. Penney stores.



tion, use the dropper to remove them. If you expel as much air as possible from the dropper before inserting it into the stain bottle, the bubbles will be negligible.

You can correct minor errors or remove drips with cotton swabs. On

glass, let the stain dry; then remove the color with the tip of a knife.

Casa light box

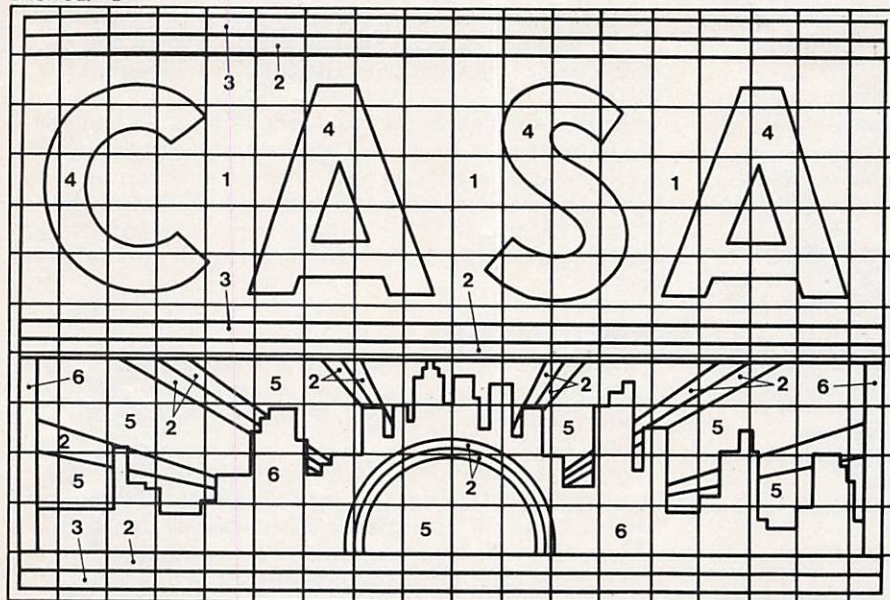
Begin work by cutting frame parts (A,B,C) to size. Cut grooves in these parts to hold backing (G). Also miter

the ends and cut grooves for splines (I). Sand these parts smooth.

Cut hardwood splines and assemble the frame with glue and clamps. Check that it is square; let the glue dry overnight. Next day, secure with well-set 6d finishing nails at joints. Fill holes with wood filler.

Cut and temporarily install cleats (E,F). These are removed later for

EACH SQ. = 2"



MATERIALS LIST—CASA LIGHT BOX

Key	No.	Size and description (use)
A	2	3/4 x 3 1/2 x 25 1/16" pine (sides)
B	1	3/4 x 3 1/2 x 37 7/16" pine (bottom)
C	1	3/4 x 3 x 37 7/16" pine (top)
D	1	1 1/8"-dia. x 11" round; cut 4 pieces to size (molding)
E	2	1/4 x 1/4 x 36" pine (top, bottom cleats)
F	2	1/4 x 1/4 x 23 1/2" pine (side cleat)
G	1	1/8 x 24 1/2 x 36 1/2" hardboard (back)
H	1	1/4 x 24 x 36" opal/frosted acrylic (glass stain panel)
I	4	1/8 x 1/2 x 4" hardwood (spline)
J	2	24" General Electric Bright Stik (light)
K	2	L-hook (back fastener)
L	1	canopy switch
M	3	solderless connector
N	1	power cord and plug (with Bright Stik)
O	4	medium-size screw eye (for hanging)
P	1	55" picture-hanging wire

Misc.: 1" brads; 3/4" brads; lamp wire; 6d finishing nails; wood filler; white glue; pigmented shellac and glossy white paint. To stain the panel, you'll need eye droppers; full-size pattern; toothpick; four 4-oz. bottles of Titan's Liquid Lead. Also, 2-oz. bottles of Glas Stain in the following colors: Royal Blue, 2 bottles (1"); Hot Orange, 1 bottle (2); Red, 1 bottle (3); Lemon, 2 bottles (4); White, 2 bottles (5); and Black, 1 bottle (6).

*Numbers in parenthesis match color code in pattern, left.

